

What is claimed is:

1. A method for exterminating pests comprising the steps of providing a composition comprising an enzyme component, said enzyme component comprising at least one protease, and said enzyme component in an amount of no more than 1 % by weight of the composition, and a detergent component, and
applying said composition to at least one pest.
2. The method according to claim 1 wherein said detergent compound comprises a surfactant and a detergent builder.
3. The method according to claim 1 wherein said step of applying said composition to said one pest comprises a first substep and a second substep, the first substep selected from the group consisting of applying said composition to at least one pest-accessible surface to form a layer on said surface, suffusing at least one pest-chewable substance with said composition, and at least partially filling a pest-accessible container to form a pest-accessible pool of said composition, and
the second substep comprising allowing said pest to contact said layer with at least one part of its body.
4. The method according to claim 1 wherein said step of applying said composition comprises using a technique selected from the group consisting of spraying, pressurized spraying, streaming, injecting, pouring, soaking, flooding, splashing, splattering, sprinkling, dripping, drizzling, shampooing, foaming, washing, bathing in, soaking in, mopping, wiping, spreading, scattering, absorbing, adsorbing, misting, vaporizing, and fogging said composition.
5. The method according to claim 3 wherein said method further comprises a baiting substep comprising a baiting technique selected from the group consisting of adding at least one pest attractant to said composition before said first substep and placing at least one pest attractant adjacent to or above said composition before said second substep.

6. The method according to claim 5 wherein said pest attractant is selected from the group consisting of sweet attractants, pheromone attractants, carbon dioxide attractants, light attractants, and mixtures thereof.
7. The method according to claim 6 wherein said pest attractant is selected from the group consisting of sugar sources, pheromone, 4-methyl-3-heptanone, pest-attractive organoborane derivatives, and other pest pheromones and their analogs, dry ice, bottled carbon dioxide, candle flames and other combustion flames, continuous and blinking white lights, black lights, green lights, and other colored lights.
8. The method according to claim 1 wherein said composition comprises about 20% by weight or less of said enzyme component.
9. The method according to claim 8 wherein said composition comprises about 0.1% to about 10% by weight of said enzyme component.
10. The method according to claim 9 wherein said composition comprises about 1% to about 5% by weight of said enzyme component
11. The method according to claim 9 wherein said composition comprises about 5% by weight of said enzyme component.
12. The method according to claim 1 wherein said enzyme component further comprises an enzyme selected from the group consisting of oxidoreductases, transferases, hydrolases in addition to said protease, lyases, isomerases, ligases, and mixtures thereof.
13. The method according to claim 12 wherein said enzyme is selected from the group consisting of hydrolases in addition to said protease, and mixtures thereof.
14. The method according to claim 13 wherein said enzyme is selected from the group consisting of lipases, glycosidases, cellulases, amylases, chitinases, and mixtures thereof.

15. The method according to claim 1 wherein said surfactant comprises a cationic, anionic, nonionic, zwitterionic, amphoteric, amphiphilic, or ampholytic surfactant, soaps, or mixtures thereof.

16. The method according to claim 15 wherein said surfactant comprises an alkali metal-, alkaline earth metal-, ammonium-, or alkylammonium-carboxylate, -sarcosinate, -sulfonate, or -sulfate salts of saturated or unsaturated alkyl, aryl, or alkylaryl compounds, the alkoxyated or polyalkoxyated compounds, the soaps, or the mixtures thereof.

17. The method according to claim 16 wherein said surfactant comprises a salt of saturated or unsaturated -alkyl alcohols, -fats, -fatty acids, or -oils, the ethoxylated- or polyethoxylated-alkylphenols, -alcohols, -polyols, -fatty acids, -fatty acid amides, or -carboxylic acids, the soaps, or the mixtures thereof.

18. The method according to claim 17 wherein said surfactant comprises: a salts of C₈-C₂₀ alcohol sulfates; salts of C₈-C₂₀ fatty acids; alkylaryl polyethylene glycols; natural soaps or neat soaps; insecticidal soaps or antibacterial soaps; oil soaps or castile soaps; household or commercial cleaners or degreasers; oil-, extract-, or saponified oil-spiked soaps.

19. The method according to claim 1 wherein said detergent builder comprises at least one of the alkali metal-borates, -tripolyphosphates, -pyrophosphates, -phosphates, -sesquicarbonates, -carbonates, -silicates, -aluminosilicates, -nitrilotriacetates, -citrates, -EDTates, or mixtures thereof.

20. The method according to claim 1 wherein said composition comprises about 85% by dry weight or less of said detergent component.

21. The method according to claim 20 wherein said composition comprises about 75% by dry weight or less of said detergent component.

22. The method according to claim 20 wherein said detergent component comprises at least $50 \pm 25\%$ by weight of said anionic surfactant(s) and as much as $50 \pm 25\%$ by weight of said nonionic surfactant(s).
23. The method according to claim 20 wherein said detergent component provides about 25% or less by dry weight of at least one soap to the composition.
24. The method according to claim 23 wherein said detergent component provides about 5% to about 15% by dry weight of at least one soap to the composition.
25. The method according to claim 24 wherein said detergent component provides about 5% to about 10% by dry weight of at least one soap to the composition.
26. The method according to claim 1 wherein about 50% or less of said composition comprises detergent builder.
27. The method according to claim 26 wherein about 2% to about 10% of said composition comprises detergent builder.
28. The method according to claim 27 wherein about 5% of said composition comprises detergent builder.
29. The method according to claim 1 wherein said composition is in the form of an aqueous solution or suspension.
30. The method according to claim 29 wherein said composition comprises at least one enzyme-containing fermentation product.
31. The method according to claim 30 wherein said enzyme-containing fermentation product comprises the product of yeast fermentation of a mixture comprising a simple sugar source, a starch source, and a magnesium salt.

32. The method according to claim 31 wherein said sugar source comprises at least one of molasses, raw sugar, or mixtures thereof.
33. The method according to claim 31 wherein said yeast fermentation is carried out by at least one organism selected from the group consisting of *Saccharomyces cerevisiae* strains, *Saccharomyces carlsbergensis* strains, and mixtures thereof.
34. The method according to claim 31 wherein said magnesium salt is magnesium sulfate.
35. The method according to claim 30 wherein said composition comprises about 10% to about 65% by dry weight of said enzyme-containing fermentation product.
36. The method according to claim 35 wherein said composition comprises about 20% to about 50% by dry weight of said enzyme-containing fermentation product.
37. The method according to claim 36 wherein said composition comprises about 25% to about 50% by dry weight of said enzyme-containing fermentation product.
38. The method according to claim 31 wherein said composition comprises about 60% to about 99.5% by weight of water.
39. The method according to claim 1 wherein said composition has a pH of about 1 to about 12.
40. The method according to claim 39 wherein said composition has a pH of about 4 to about 10.
41. The method according to claim 39 wherein said composition has a pH which is set at the approximate optimal point for enzyme activity of the composition.

42. The method according to claim 39 wherein said composition has a pH which is set at the approximate optimal point for protease activity of the composition.
43. The method according to claim 39 wherein said composition further comprises at least one acid source or buffer.
44. The method according to claim 43 wherein said acid source is selected from the group consisting of acetic acid, citric acid, lactic acid, succinic acid, fumaric acid, tartaric acid, and phosphoric acid, and salts thereof, and mixtures thereof.
45. The method according to claim 43 wherein said composition comprises up to about 15% by weight of said acid source.
46. The method according to claim 44 wherein said acid source comprises citric acid and makes up about 0.5% to about 5% by dry weight of said composition.
47. The method according to claim 46 wherein said acid source comprises citric acid and makes up about 1% to about 2% by dry weight of said composition.
48. The method according to claim 44 wherein said acid source comprises lactic acid and makes up about 2% to about 10% by dry weight of said composition.
49. The method according to claim 48 wherein said acid source comprises lactic acid and makes up about 4% to about 8% by dry weight of said composition.
50. The method according to claim 1 wherein said composition further comprises at least one nitrogen source.
51. The method according to claim 50 wherein said nitrogen source is selected from the group consisting of urea, ammonium sulfate, and mixtures thereof.

52. The method according to claim 50 wherein said composition comprises up to about 45% by dry weight of said nitrogen source.
53. The method according to claim 51 wherein said composition comprises about 40% or less by dry weight of urea.
54. The method according to claim 53 wherein said composition comprises about 1% to about 30% by dry weight of urea.
55. The method according to claim 54 wherein said composition comprises about 5% to about 30% by dry weight of urea.
56. The method according to claim 55 wherein said composition comprises about 10% to about 30% by dry weight of urea.
57. The method according to claim 51 wherein said composition comprises about 30% or less by dry weight of ammonium sulfate.
58. The method according to claim 57 wherein said composition comprises about 0.5% to about 30% by dry weight of ammonium sulfate.
59. The method according to claim 58 wherein said composition comprises about 0.5% to about 20% by dry weight of ammonium sulfate.
60. The method according to claim 1 wherein said composition further comprises at least one of oils, extracts, or mixtures thereof.
61. The method according to claim 60 wherein said oil, extract, or mixture thereof comprises an oil or extract of citronella, pine, cedarwood, sandalwood, wormwood, lemon grass, lemon or other citrus, lavender, eucalyptus, sassafras, neem tree, balsam, niaouli,

cajeput, clove, cubeb, thyme, garlic, wintergreen, peppermint or other mint, American wormseed, Levant wormseed, *Juniperus* spp., or *Chrysanthemum* spp., etc.

62. The method according to claim 60 wherein said composition comprises up to about 5 % by weight of at least one of said oils, extracts, or mixtures thereof.

63. The method according to claim 62 wherein said composition comprises about 0.1 % to about 5 % by dry weight of at least one of said oils, extracts, or mixtures thereof.

64. The method according to claim 1 wherein said composition further comprises an alcohol, hydrogen peroxide, glycerin, borax, pest hormones, growth regulators, or their analogs, botanical pesticides, soluble or suspendable aluminum compounds in, or mixtures thereof.

65. The method according to claim 64 wherein said pest hormone, growth regulator, or analog is selected from the group consisting of methyl 12,14-dihomojuvenate, methyl 12-homojuvenate, methoprene, hydropene, fenoxycarb, lufenuron, diflubenzuron, hexaflumuron, cyromazine, growth regulators, and analogs, and mixtures thereof.

66. The method according to claim 64 wherein said botanical pesticide is selected from the group consisting of rotenone, ryanodine and other ryania extracts, sabadilla, hellebore, limonene, linalool, nicotine, and mixtures thereof.

67. The method according to claim 64 wherein said soluble or suspendable aluminum compound is selected from the group consisting of aluminum-halogen compounds, aluminum-silicon compounds, aluminum hydroxides, aluminum-containing organic compounds, aluminum-carbonate compounds, aluminum-phosphorous compounds, aluminum-sulfates and alums, aluminates, aluminum-nitrate compounds, and mixtures thereof.

68. The method according to claim 67 wherein said aluminum-containing organic compound is selected from the group consisting of aluminum carboxylates of the formula $\text{Al}(\text{OH})_{3-n}(\text{R})_n$ wherein n is 1, 2, or 3, and mixtures thereof.

69. The method according to claim 64 wherein said soluble or suspendable aluminum compound is selected from the group consisting of AlCl_3 , $\text{AlCl}_3(\text{H}_2\text{O})_6$, $\text{Al}_2(\text{OH})_5\text{Cl}$, AlCl_3O_9 , $\text{Al}[\text{CO}(\text{NH}_2)_2]_6\text{SO}_4\text{I}_3$, $\text{Al}_2(\text{SiF}_6)_3$, $\text{MgAl}_2(\text{SiO}_4)_2$, $\text{Al}(\text{OH})_3$, aluminum diformate, aluminum diacetate, aluminum subacetate, $\text{Al}_2[\text{C}_{10}\text{H}_5(\text{OH})(\text{SO}_3)_2]_3$, $\text{Al}_2(\text{CO}_3)_3$, AlPO_4 , $\text{Al}_2(\text{SO}_4)_3$, $\text{NaAl}(\text{SO}_4)_2$, NaAlO_2 , $\text{Al}(\text{NO}_3)_3$, $\text{Al}(\text{OH})_2(\text{NO}_3)$, $\text{Al}(\text{OH})(\text{NO}_3)_2$, and mixtures thereof.

70. The method according to claim 67 wherein said composition comprises a concentration of said soluble or suspendable aluminum compound sufficient to provide about 1% w/v or less of aluminum and at least about 50% of said aluminum is present as dissolved Al^{3+} .

71. The method according to claim 70 wherein said composition comprises a concentration of said soluble or suspendable aluminum compound sufficient to provide about 0.5% w/v or less of aluminum and at least about 50% of said aluminum is present as dissolved Al^{3+} .

72. The method according to claim 71 wherein said composition comprises a concentration of said soluble or suspendable aluminum compound sufficient to provide about 0.4% w/v of aluminum and substantially all of said aluminum is present as dissolved Al^{3+} .

73. The method according to claim 31 wherein said starch source is one of barley malt, oat malt, or a mixture thereof.

74. A method of exterminating pests comprising the steps of providing a composition comprising an enzyme component, said enzyme component comprising a protease, and said enzyme component in an amount no greater than 1% by weight of the composition, a detergent support comprising a surfactant and a detergent builder, and a fermentation product of a starch source; and

applying said composition to at least one pest.

75. The method of claim 1, wherein said composition includes baking soda.

76. The method according to claim 18 wherein said oil-, extract- or saponified oil-spiked soaps comprises at least one of: an oil, saponified oil, or extract of citronella, pine, cedarwood, sandalwood, wormwood, lemon grass, lemon or other citrus, lavender, eucalyptus, sassafras, neem tree, balsam, niaouli, cajeput, clove, cubeb, thyme, garlic, wintergreen, peppermint or other mint. American wormseed, Levant wormseed, *Juniperus* spp., or *Chrysanthemum* spp., etc.

77. The method according to claim 18 wherein said oil-, extract-, or saponified oil-spiked soaps comprises at least one of: menthol, menthane, sobrerol, camphor, anethole, citronellol, rhodinol, or terpineol, or comprising a mixture thereof; or the mixtures thereof.

78. The method according to claim 61 wherein said oil, extract, or mixture thereof comprises at least one of: menthol, menthane, sobrerol, camphor, anethole, citronellol, rhodinol, or terpineol, or a mixture thereof.

79. A method of exterminating pests comprising the steps of providing a composition comprising an enzyme component, said enzyme component comprising a protease, and said enzyme component in an amount no greater than 1% by weight of the composition, and a detergent compound comprising a surfactant and a detergent builder; and
applying said composition to at least one pest.

80. The method according to claim 79 wherein said composition further comprises glycerin.